

Educational Management Information System in Nigeria: Challenges and the Way Forward

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ABSTRACT

Educational Management Information System (EMIS) is an education database that aims at ensuring timely, accurate and appropriate education data and information for decision making. It is a global concept for educational management that encompasses the application of modern information and communication technology in collection, collation, storage and analysis of education data. The government has a clear understanding of what role EMIS plays in future planning activities, both at the federal and state levels. Despite the good intention of government, it is difficult to establish accurate quantitative targets for future plans due to lack of adequate base-line information. This paper discussed the challenges of Educational Management Information System (EMIS) in Nigeria and the way forward. It was found out these challenges include inadequate funding, inability to integrate data and data systems, inadequate development of skills in data use at all levels, inability to capture expenditure and budget data in EMIS and inability to develop student-record based EMIS. Therefore, it was recommended that adequate funding should be provided for EMIS development, data should be integrated into the data system, skills in data use should be developed at all levels, budget data and capturing of expenditure should be encouraged, and finally, student-record based for EMIS should be developed.

Keywords: *Challenges, Educational Management Information System*

INTRODUCTION

In Nigeria, Educational Management Information System (EMIS) plays a minimal role in supporting at either the federal, state or local government levels. However, it would be wrong to assume that EMIS is not used in the planning process since it is beginning to play an important role in facilitating the preparation of strategic plans at the state level (Stephen and Cummings, 2009). Moreover, the government has a clear understanding of what role EMIS will play in future planning activities, both at the federal and state levels. Despite the good intention of government, it is difficult to establish accurate quantitative targets for future plans due to lack of adequate base-line information (Haiyan and Herstein, 2003). For outsiders, according to them, it is difficult to understand how EMIS operates due to the different layers of government involved in the collection and collation of education data. For instance, the Federal Ministry of Education, the State Ministries of Education and the various local governments' educational administrations are all involved in the collection and collation of data. The relationships between the different layers of government are defined in legislation but not in practice, this often becomes blurred. All of these relationships have impact on how data are collected, collated and analyzed, including who

is responsible for each of these activities. In reforming its EMIS, Nigeria faces similar problems to those experienced by other countries including lack of capacity, limited commitment from stakeholders and difficulties associated with the collection of survey data (Chapman and Mahlck, 1997). Given the complicated environment in which data collection takes place and the politics surrounding federal-state relationships, the government faces enormous challenges to develop an EMIS capable of capturing the inputs and outputs of the educational system, not to mention issues associated with measuring the efficiency of resource allocation (Haiyan and Herstein, 2003).

The government and donor community recognize these challenges and embarked on a series of major reforms, including the development of structures to improve coordination at the federal level and to focus resources on creating a sustainable EMIS at the state level. For instance, a centralized national EMIS committee was established to avoid fragmentation and ensure that data collection and collation take place in a coordinated manner (Chapman and Mahlck, 1997). However, on the downside, they opined that most of these reforms have been donor driven and the degree of support from the Federal Ministry of Education is questionable. Nevertheless, following the successful pilot of EMIS at the state level, a decision has been made to extend this decentralized approach to a further nineteen states in 2006. This offers lessons for other developing countries who are attempting to reform their EMIS in an environment where political tensions exist between central and local government levels (Haiyan and Herstein, 2003).

Development of Educational Management Information System in Nigeria

According to Stephen and Cummings (2009), EMIS is concerned with gathering statistics from the schools, following people, models, methods, procedures, processes, rules and regulations. It also relates with the use of computer technology to get all the mentioned functions work together to provide comprehensive, integrated, relevant, reliable, unambiguous and timely data to education leaders, decision makers, planners and managers to perform their responsibilities efficiently to achieve set goals (Haiyan and Herstein, 2003). The Nigerian Educational Management Information System (NEMIS) policy maintains that EMIS is a database used to support the effective management of the educational system as a whole and of students in particular. EMIS is therefore a process used to provide the basis for monitoring the effectiveness and efficiency of an educational system at all levels (Haiyan and Herstein, 2003).

The historical development of EMIS in Nigeria can be treated within three phases from 1980s when it started. The first phase came via the civil service reform which was necessitated by the need to use valid and accurate data for decision making. This phase metamorphosed into the law establishing Department of Planning, Research and Statistics (DPRS) within government ministries and public agencies. The rationale was to develop structures that will help coordinate planning, research and development as well as data collection, storage, analysis and distribution. The creation of the National Education Data Bank (NEDB) and the country's first Educational Management Information System are by-products of this first phase which drew its funding mainly from United Nations

Educational, Scientific, and Cultural Organization (UNESCO). The main objective at that time was to strengthen the educational statistical system to produce more relevant, reliable and timely data at all levels of the educational system. The second phase of the development of EMIS is characterized by Donor Agencies and International Development Partners. Between 1988 and 1993, NEDB in conjunction with UNESCO undertook three schools census nationwide. Data collected were entered into spreadsheets and stored on a simple database at NEDB. However, following the completion of the UNESCO project, no donor funding was available to support the collection and analysis of data until three years later when the World Bank came in to support further work on EMIS. In the recent phase of the development, attempt has been made to correct past mistakes through series of interconnected activities such as multi-stakeholders meetings, policy analysis and reviews, needs assessment, surveys, advocacy, capacity building and system strengthening.

These efforts have culminated in the development of the Nigerian Educational Management Information System (NEMIS) Policy by collaborative efforts of the federal and state ministries of education and their parastatals, international development partners as well as civil society organizations (Shoobridge, 2006). The objectives of EMIS in Nigeria include: (i) to support the achievement of goals of education as articulated in the National Policy on Education (NPE), (ii) to provide a basis for monitoring the effectiveness and efficiency of the educational system at all levels of education, (iii) to develop and report on key indicators to monitor the achievement of educational standards and annual targets, and (iv) to provide a basis for Federal Ministry of Education (FME) to report on the status of education in Nigeria using national and international bench marks and comparative global reporting analysis.

Challenges of Educational Management Information System

Some of the challenges of EMIS in Nigeria are discussed below as highlighted by Shoobridge, (2006).

Inadequate funding: How to fund EMIS development and maintenance is no doubt the biggest challenge facing some countries including Nigeria. This is an issue beyond the scope of the current review. Inadequate funding has prevented most schools from having well equipped computer laboratories.

Inability to integrate data and data systems: Integration is the most significant supply-side challenge facing those responsible for EMIS development in Nigeria today. As observed by Shoobridge (2006), most of the integration challenge has to do with organizational constraints. There is much more reliable and useful data and information available today in most countries than in the past but even in the countries considered to be leading in terms of EMIS development, e.g., Chile, Mexico, Argentina, Brazil, data is rarely integrated in ways that make it readily available to support monitoring and evaluation, policy analysis and planning at multiple levels. This is largely difficult because past efforts to improve data quality were efforts designed to meet the particular needs of specific ministry offices and extra organizations. Haiyan and Herstein (2003) maintained that the development and

maintenance of an integrated EMIS requires a high degree of coordination and collaboration at all levels in the educational system as well as with other ministries and with external agencies. This is not an easy task as organizations are as complex as educational systems tend to resist change. More timely integration of data across units will only be possible if standard definitions and coding schemes are developed and put in place across the system

Inadequate development of skills in data use at all levels: Considerable knowledge and skills are required to build, maintain and use an EMIS. Lack of available human resource capacity significantly limits EMIS development. Building human resource capacity has long been known as a critical factor in the success of EMIS development. Limited capacity for more effective use of data in management and decision making, particularly at the school levels is often cited by local educators and external evaluators as a critical factor limiting the development of EMIS in Nigeria. Several categories of knowledge and skills are often referenced as deficient: (i) knowledge and skills to lead and manage EMIS development; (ii) knowledge and skills to use technology; and (iii) knowledge and skills to use data effectively for decision making, policy analysis and planning (AEPM, 2007).

Inability to capture expenditure and budget data in EMIS: The lack of access to desegregate data on educational expenditures or even education budgets is often cited as a major constraint to more informed dialogue on education policy. The lack of budget transparency has been cited as a serious limitation to wider citizen participation in policy debates in Nigeria.

Inability to develop student-record based EMIS: The debate in Nigeria is about whether, or not, to pursue the development of individual student-based EMIS. Proponents of such systems often point to the need for individual student records to monitor the progress of all students and to support student-based financing schemes, which are emerging in a number of countries. The implications for EMIS of a decision to build a student-based EMIS and maintain student records at state and federal levels are considerable. The development of a student-based system is conceptually straight-forward and not particularly difficult to accomplish technically. The challenge, when building and maintaining a national EMIS based on individual student records is how to manage the complexities involved with tracking and updating student records from year to year. The administrative-management demands of such a system are considerable. Maintaining national level student-record based EMIS requires a level of administrative and management discipline that is often beyond the means of current administrative-bureaucratic-management systems. Most systems are not disciplined enough to sustain such systems for a long time (AEPM, 2007). Experience in other countries suggests that the decision to build an EMIS up from individual student records should be weighed carefully against existing management capacities, administrative-bureaucratic discipline and available resources (Stephen and Cummings, 2009).

CONCLUSION AND RECOMMENDATIONS

Given the complicated environment in which data collection takes place and the politics surrounding federal-state relationships, the government faces an enormous challenge to develop an EMIS capable of capturing the inputs and outputs to the educational system, not to mention issues with measuring the efficiency of resource allocation. These challenges are inadequate funding, inability to integrate data and data systems, inadequate development of skills in data use at all levels, inability to capture expenditure and budget data in EMIS and inability to develop student-record based EMIS. The government and donor community recognize these challenges and need to embark on a series of major reforms, including the development of structures to improve coordination at the federal level and to focus resources on creating a sustainable EMIS at the state level. Achieving the goals of quality, equality and equity requires new knowledge and skills at all levels and in all job categories from teachers and principals to state and national-level educators. Based on these findings, it is recommended that adequate funding should be provided for EMIS development, data should be integrated into the data system, skills in data use should be developed at all levels, budget data and capturing of expenditure should be encouraged, and finally, student-record based for EMIS should be developed.

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